

NEWS RELEASE

FOR IMMEDIATE RELEASE
8 August 2022

Mitsubishi Electric MELFA ASSISTA Cobots Augment Packing Operations for National Day Parade 2022 (NDP) Packs

SINGAPORE, 8 August 2022- This year, Mitsubishi Electric MELFA ASSISTA Cobots are augmenting packing operations of National Day Parade packs, which are issued at the Parade annually.



"I hope we will continue to adopt automation... so that we can expose our servicemen to greater learning opportunities." Major Chua Boon Kiat, Head of Production, NDP Pack Committee 2022, Singapore Armed Forces, Singapore

Since 1991, the Packs distributed to spectators each National Day Parade (NDP) have been manually packed. For the first time, to facilitate the packing for NDP 2022, Mitsubishi Electric, together with their e-F@ctory alliance partner Hand Plus Robotics, have incorporated collaborative robots (Cobots) into the Army's production line to help pack the [NDP Packs](#) this year.

Cobots help make packing work efficient and minimize the manpower normally required for the job. The Cobots the Army has deployed are the Mitsubishi Electric Collaborative Robot, known as the MELFA ASSISTA, which are designed to share work space with humans, placing emphasis on safety and efficiency. MELFA ASSISTA Cobots can work alongside human operators without the need for safety fences to perform complex and delicate assembly tasks with the highest levels of consistency and reliability. These Cobots can also be introduced in a manner that do not require large-scale changes to the existing, or assigned, floor areas, in this instance those dedicated to the packing.

In a post published on the OurSingaporeArmy's Facebook page, Major Chua Boon Kiat, Head of Production NDP Pack Committee, stated that a robust Business Continuity Plan for the operation was needed this year, especially to safeguard people amid the backdrop of the pandemic and hence, the Army explored automation options.



Mitsubishi Electric MELFA ASSISTA helping with the packing of NDP packs.

Deploying Cobots means that some menial processes can be conducted continuously, even in the face of disruptions, ensuring that productivity targets are met. When a robot does the work, humans are free to do more productive tasks.

Lean and Flexible Manufacturing for Future-Forward Factories

In September 2020, the International Federation of Robotics' in their [World Robotics 2020 Industrial Report](#) reported that some 2.7 million robots work in factories around the world. Of those, Singapore has the highest density of industrial robots in the world at 918 robots per 10,000 employees. Cobots in particular hold more than 40% market share according to various market research reports, and the largest market share for Cobots is held in the Asia Pacific region, both in terms of value and volume (Sources: [1](#), [2](#), [3](#)).

Designed to interact safely with humans, Cobots have been widely adopted in the manufacturing and service sectors. Despite their slower speed as compared to traditional industrial robots, Cobots benefit manufacturers in terms of more effective employee utilisation, higher productivity, and flexibility in redeployment. Today, an added benefit is that they help factory operators to meet regulations to adequately distance workers across their manufacturing sites.

Cobots also help manufacturers to reduce the total cost of ownership (TCO) of robotic manufacturing systems. As they are lightweight, Cobots are easy to install in factories. While to set up and equip a factory with Cobots requires upfront investment, in the long run, using Cobots helps manufacturers to save on cost, which improves profitability.

The Mitsubishi Electric MELFA ASSISTA can be programmed visually with intuitive operation by using the RT Visual Box. They offer versatility as they can be installed with a wide variety of components such

as Grippers, Fingers, Vision and other peripherals, which are easy to set up and can be configured to meet specific application requirements, such as being able to move freely as part of an Automated Guided Vehicle (AGV) / Autonomous Mobile Robots (AMR).

As the use of Cobots becomes more commonplace, so too will cooperative manufacturing become more commonplace in the factory of the future. Ultimately, it is expected that the factories of the future will feature a blend of robot workers with human-like abilities, such as creative and holistic thinking, analytical and synthesis capabilities, and precise manual manipulation skills.

This collaboration between Mitsubishi Electric and the Singapore Armed Forces marks the first step in a far longer journey in industrial automation and man-machine collaboration for the future. "I hope we will continue to adopt automation in NDP packing operations for our Army to benchmark with industrial standards so that we can expose our servicemen to greater learning opportunities," said Major Chua, the change maker who made it happen this year.



Soldiers working alongside the Mitsubishi Electric MELFA ASSISTA cobots.

Given this year's national day theme of "Stronger Together, Majulah!" ("Stronger together, onwards!"), it is fitting that this collaboration of human and Cobot is doing its part moving our nation forward.

Please click [here](#) to view the video of Cobots augment packing operations for NDP 2022 packs.

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About Mitsubishi Electric Asia

Mitsubishi Electric Asia is a subsidiary of Mitsubishi Electric Corporation, a world leading manufacturer of products ranging from home electronics, industrial and factory automation, space systems, public utility systems, semiconductors and devices. Since incorporation as Melco Sales Singapore in 1977, Mitsubishi Electric Asia has been providing reliable, high-quality products to homes, businesses and industries in Asia Pacific.

Located in Singapore, Mitsubishi Electric Asia seeks to be established as a marketing and engineering hub with its well-networked and strategic presence in the region. At Mitsubishi Electric Asia, we live by our pledged commitment to change for the better with every move we make.

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About Factory Automation & Industrial Division

Offering a vast range of automation and processing technologies, including controllers, drive products, power distribution and control products, electrical discharge machines, electron beam machines, laser processing machines, computerized numerical controllers, and industrial robots, Mitsubishi Electric helps bring higher productivity – and quality – to the factory floor. In addition, our extensive service networks around the globe provide direct communication and comprehensive support to customers.

About e-F@ctory

e-F@ctory is Mitsubishi Electric's integrated concept to build reliable and flexible manufacturing systems that enable users to achieve many of their high speed, information driven manufacturing aspirations. Through its partner solution activity, the e-F@ctory Alliance, and its work with open network associations such as the CC-Link Partners Association (CLPA), users can build comprehensive solutions based on a wide ranging "best in class" principle. In summary, e-F@ctory and the e-F@ctory Alliance enable customers to achieve integrated manufacturing but still retain the ability to choose the most optimal suppliers and solutions.

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